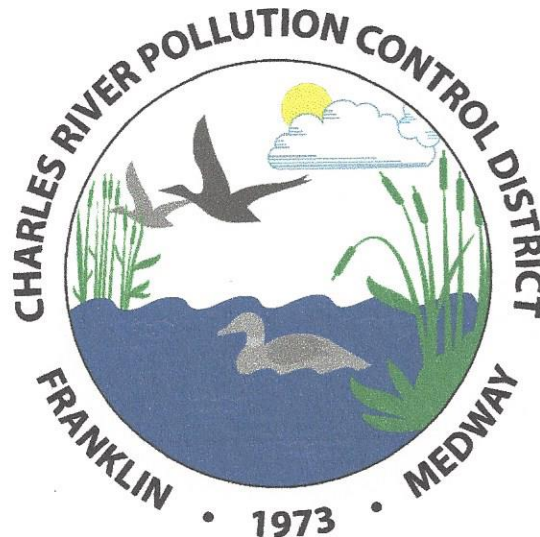


CHARLES RIVER POLLUTION CONTROL DISTRICT

Industrial Pretreatment Program Annual Report

July 2020 - June 2021



NPDES Permit Number MA0102598

Serving the towns of Franklin, Medway, Millis, Bellingham, Norfolk,
Wrentham, Dover, and Sherborn

66 Village Street
Medway, MA 02053

- EPA Region 1 Annual Pretreatment Report Summary Sheet
 - Significant Industrial Users
 - Industrial User List
-
- Description of Permitting Process and Activity
 - Permits Issued
 - Industrial Pretreatment Program Funding and Changes
-
- Summary of Inspections
 - Inspection and Sampling
 - Industrial Users Parameter Violation Report
 - List of Significantly Violating Industries Required to be Published in a Local Paper
-
- Pollutant Analytical Results for Raw, Primary Effluent, Secondary Effluent, Final Effluent, Septage, and Sludge
 - Copper Data, Bioassay Data, Water Quality Analysis Summary, and Inhibitory Threshold Concentrations
-
- Description of all Interference and Pass-Through that Occurred During the Past Year
 - Description of all Investigations into Interference and Pass-Through During the Previous Year
-
- Description of Monitoring, Sewer Inspections and Evaluations to Detect Interference and Pass-Through
-
- Actions Taken to Reduce the Incidence of Significant Violations by Significant Industrial Users
-
- Local Limits with Date of the Latest Adoption

EPA Region 1 Annual Pretreatment Report Summary Sheet December 2007

POTW Name:

NPDES Permit #:

Pretreatment Report Period Start Date:

Pretreatment Report Period End Date:

of Significant Industrial Users (SIUs):

of SIUs Without Control Mechanisms:

of SIUs not Inspected:

of SIUs not Sampled:

of SIUs in Significant Noncompliance (SNC) with Pretreatment Standards:

of SIUs in SNC with Reporting Requirements:

of SIUs in SNC with Pretreatment Compliance Schedule:

of SIUs in SNC Published in Newspaper:

of SIUs with Compliance Schedules:

of Violation Notices Issued to SIUs:

of Administrative Orders Issued to SIUs:

of Civil Suits Filed Against SIUs:

of Criminal Suits Filed Against SIUs:

of Categorical Industrial Users (CIUs):

of CIUs in SNC:

Penalties

Total Dollar Amount of Penalties Collected \$ 0.00

of IUs from which Penalties have been collected:

0

Local LimitsDate of Most Recent Technical
Evaluation of Local Limits:

January 15, 2020

Date of Most Recent Adoption of
Technically Based Local Limits:

March 12, 2020

Pollutant	Limit (mg/l)	MAHL (lb/day)
Cyanide	0.23	1.17
Arsenic	1.02	4.75
Cadmium	0.06	0.32
Chromium	3.48	16.28
Copper	1.05	9.14
Lead	0.08	0.50
Mercury	0.03	0.13
Nickel	0.79	4.07
Selenium	0.14	0.70
Silver	0.35	1.63
Zinc	1.32	10.87
Oil & Grease	150	NA*
pH	5-12 s.u.	NA

* NA: MAHL's were not calculated for these pollutants

Parameter	Daily Limit (lb/day)	Max Monthly (lb/day)	MAHL Daily Limits (lb/day)	MAHL Monthly (lb/day)
Biological Oxygen Demand (BOD)	3,148	761	16,517	13,533
Total Suspended Solids (TSS)	5,473	1,287	20,040	14,807
Total Ammonia – Nitrogen (NH ₃)	564	409	1,733	1,539
Total Phosphorus (TP)	278	229	587	526

SIGNIFICANT INDUSTRIAL USERS

**American National Power
Bellingham Energy Company**
155 Maple Street, Bellingham, MA 02019

Status: Active
Permit Number: 01-01LF
Permit Effective Date: July 1, 2021
Permit Expiration Date: June 30, 2023

Flow: 25,000 gpd

Category: American National Power, Bellingham Energy Company, a combined-cycle electric generating facility, is a categorical SIU covered under 40 CFR 423 (Steam electric power generating point source category).

Specifically, American National Power, Bellingham Energy Company is required to comply with 40 CFR 423.17 (Pretreatment standards for new sources). Batch discharges of chemical metal cleaning waste are limited to 1.0 mg/L of copper.

Process: 580 MW natural gas fired, turbine combined-cycle, electric generating facility.

Garelick Farms GTL-LLC
1199 West Central Street, Franklin, MA 02038

Status: Active
Permit Number: 01-02LF
Permit Effective Date: January 1, 2020
Permit Expiration Date: December 31, 2021

Flow: 450,000 gpd

Category: Garelick Farms, Inc. contributes over 25,000 gallons per day and at least five percent of the District's total load of BOD, TSS, total phosphorus, and ammonia nitrogen. Therefore, Garelick Farms is considered a significant industrial user.

Process: Receiving, processing, and filling of liquid milk, water and reconstituted juices for shipping. Blow molding of HDPE bottles and LDPE caps.

MicroGroup, Inc.

7 Industrial Park Road, Medway, MA 02053

Status: Active

Permit Number: 02-06LF

Permit Effective Date: January 1, 2021

Permit Expiration Date: December 31, 2022

Flow: 3,540 gpd

Category: Manufacturer of stainless-steel products for medical industry (Metal Finisher 40 CFR 433 point source category).

Process: Manufactures medical analytical instrument components and assemblies' parts to customer. Process includes soap wash, electropolishing, rust and scaling, passivation and pickling.

Charles River Pollution Control District
Industrial Pretreatment Program
Industrial User List

Permit No.	Permittee	Site Address	City	Type	Permit Effective Date	Permit Expiration Date
02-02SF	AR Metallizing	24 Forge Park	Franklin	IU	4/4/2019	3/31/2022
01-15SF	Chelsea Drum	300 Beaver Street	Franklin	IU	5/1/2019	4/30/2022
2016-04SF	Cold Chain Technologies	135 Constitution Boulevard	Franklin	IU	4/4/2019	3/31/2022
01-03SF	E. Central Car Wash	349 East Central Street	Franklin	IU	7/1/2019	6/30/2022
2016-12SF	Ellen Realty Trust	2 Marc Road	Medway	IU	12/1/2019	11/30/2022
2005-1SF	Mobil Station 1503	972 Main Street	Millis	IU	6/1/2020	5/31/2023
2014-01SF	Franklin Paint	259 Cottage Street	Franklin	IU	9/1/2020	8/31/2023
02-08SF	Innovative Coatings	24 Jayar Road	Medway	IU	11/8/2020	10/31/2023
02-03SF	Primrose Franklin	520 West Central Street	Franklin	IU	5/1/2019	4/30/2022
00-09SF	Primrose Millis	Parcel 26, 1175 Main Street	Millis	IU	1/1/2020	12/31/2022
2015-7SF	Fresh Box Farms	725 Main Street	Millis	IU	7/1/2021	6/30/2024
2016-02SF	Tegra Medical	9 Forge Parkway	Franklin	IU	2/1/2019	1/31/2022
00-01SF	Eagle Stainless	10 Discovery Way	Franklin	IU	3/1/2019	2/28/2022
02-07SF	Advance Signing	4 Industrial Park Road	Medway	IU	11/1/2020	10/31/2023
02-01SF	Sparkles Car Wash	115A Main Street	Medway	IU	5/1/2019	4/30/2022
01-13SF	Alpha Grainger	20 Discovery Way	Franklin	IU	5/1/2019	4/30/2022
2005-06SF	Medway Block	120 Main Street	Medway	IU	8/1/2019	7/31/2022
01-14SF	Newport Corporation	8 East Forge Parkway	Franklin	IU	7/12/2019	6/30/2022
00-04SF	Plansee	115 Constitution Blvd	Franklin	IU	7/1/2019	6/30/2022
2018-04SF	New England Treatment	5 Forge Parkway	Franklin	IU	4/27/2021	3/31/2024
2018-10SF	Hartford Enterprises	300 Hartford Avenue	Bellingham	IU	10/26/2018	9/30/2021
2019-06SF	GlenPharmer Distillery	860 West Central Street	Franklin	IU	2/4/2020	1/31/2023
2020-05SF	Karl Storz	1376 West Central Street	Franklin	IU	5/12/2020	4/30/2023
2020-08SF	Tegra Medical – 16 Forge	16 Forge Parkway	Franklin	IU	8/13/2020	7/31/2023
2010-01ND	EMC Corp (2010-01ND)	109 Constitution Blvd	Franklin	ND	3/1/2021	2/28/2026
2010-02ND	EMC Corp (2010-02ND)	110 Constitution Blvd	Franklin	ND	3/1/2021	2/28/2026
01-11ND	EMC Corp (01-11ND)	55 Constitution Blvd	Franklin	ND	9/1/2017	8/31/2022
01-09ND	EMC Corp (01-09ND)	50 Constitution Blvd	Franklin	ND	9/1/2017	8/31/2022

DESCRIPTION OF PERMITTING PROCESS AND ACTIVITY

PERMITTING PROCESS

An application questionnaire is sent to a potential industrial discharger. Sixty (60) days is allotted for an industry to complete and return a signed application. If an industry is discharging process wastewater into a sewer in Franklin, Medway, Millis or Bellingham, the industry is required to include a laboratory analysis (monitoring base line) with its application.

After review of the application, the District conducts an inspection of the industry to verify the information submitted in its application. Industries that discharge process wastewaters into the sewer are classified by the District as either a significant industrial user (SIU) or an industrial user (IU). For administrative purposes only, the District also classifies industries with no process wastewater discharges as non-dischargers.

All significant industrial users are initially issued a draft industrial discharge permit by the District, which undergoes a thirty (30) day public comment period. After public comments are evaluated, these industries are issued a final two (2) year industrial discharge permit. The District charges a \$500 fee for a significant industrial user permit and a \$150 fee for an industrial user permit. The District also issues five (5) year, no fee industrial discharge permits for non-significant industries found to have no industrial discharge.

PERMITTING ACTIVITY

During this reporting period, the District renewed two (2) non-discharge IU's, five (5) IU's and one (1) SIU. The District terminated one IU permit.

At this time, the District monitors three (3) Significant Industrial Users and twenty-eight (28) Industrial Users.

PERMITS ISSUED

July 2020 - June 2021

Permit Number	Company Name	Facility Name	Date of Issuance
2014-01SF	Franklin Paint Company	Franklin Paint Company	9/1/2020
02-08SF	Innovative Coatings Inc	Innovative Coatings Inc	11/8/2020
02-07SF	Poblocki Sign Company LLC	Advance Signing LLC	11/1/2020
2018-04SF	Parallel Holdings	New England Treatment Access (NETA)	4/1/2021
2020-08SF	Tegra Medical, LLC	Tegra Medical, LLC	8/13/2020
2010-01ND	EMC Corp	EMC Corp	3/1/2021
2010-02ND	EMC Corp	EMC Corp	3/1/2021
02-09SF	MicroGroup, Inc	Micogroup, Inc	1/1/2021

INDUSTRIAL PRETREATMENT PROGRAM FUNDING AND CHANGES

Funding

For fiscal year 2021, the District's Board of Commissioners approved funding for the industrial pretreatment program's (IPP) operating budget. The following is a breakdown of the IPP funding:

<u>ITEM</u>	<u>FUNDING</u>
IPP Coordinator	\$ 45,000
IPP Computer Software Support	3,000
Legal Services/Consultant Fees	1,500
District Sampling	3,000
Outside Laboratory	5,800
<u>District Laboratory</u>	<u>500</u>
Total	\$ 58,800

The costs of the Industrial Pretreatment Program are recovered from (1) O&M assessments to the Towns of Franklin, Medway, Millis and Bellingham, (2) Septage disposal fees, and (3) IPP permit fees.

Proposed Changes to IPP Program

The District does not have any outstanding proposed changes to the IPP Program.

SUMMARY OF INSPECTIONS

Significant Industrial Users (SIU's)

ANP Bellingham Energy Co., MicroGroup Inc and Garelick Farms, Inc. were inspected once during the reporting period.

Brief summary of inspection proceedings:

1. During initial inspection, meet with representative(s) from industry to review permit application and proposed local and federal categorical limits if applicable.
2. Tour manufacturing production lines, pretreatment systems, and chemical storage and inventory areas.
3. Review status of any compliance schedules.
4. View sampling location(s) and method of flow measurement.
5. Determine if spills or accidental discharges can occur to the sewer and whether or not a slug control plan is necessary.
6. Review sampling collection/preservation procedures if applicable.
7. Review maintenance and operating logs for proper record keeping.
8. Inquire about recent or planned changes in manufacturing, pretreatment, etc. which may affect industrial discharge.
9. Discuss District's concerns with industry on monitoring data and answer industry questions.

INSPECTION & SAMPLING

July 2020 – June 2021

<u>INDUSTRY</u>	<u>INSPECTION DATES</u>	<u>SAMPLING DATES</u>
ANP Bellingham Energy Co.	May 24, 2021	May 24, 2021
MicroGroup, Inc.	June 1, 2021	June 1, 2021
Garelick Farms, Inc.	June 2, 2021	June 1, 2021

SIGNIFICANT INDUSTRIAL USERS LISTED IN LOCAL PAPER

During this reporting period, no Significant Industrial Users were published in a local newspaper in accordance with 40 CFR 403.8 (f) (2) (vii).

POLLUTANT ANALYTICAL RESULTS CHARLES RIVER POLLUTION CONTROL DISTRICT

Treatment Facility Sampling

During the reporting year, the District analyzed the raw wastewater, primary effluent, secondary effluent, final effluent, septage, and sludge for arsenic, cadmium, chromium, copper, cyanide, lead, mercury, nickel, oil & grease, selenium, silver and zinc. The sludge samples were grab samples whereas the septage samples were composite samples.

The following table outlines the sampling frequency for each sampling location:

<u>Sampling Location</u>	<u>Sampling/Testing Frequency</u>
Raw Influent	Monthly
Primary Effluent	Quarterly, (copper monthly)
Secondary Effluent	Quarterly, (copper monthly)
Final Effluent	Quarterly, (copper monthly)
Septage	Quarterly, (copper monthly)
Sludge	Quarterly, (copper monthly)

Attached are tables summarizing the results of the raw influent, primary effluent, secondary effluent, final effluent, septage and sludge during the reporting period.

CHARLES RIVER POLLUTION CONTROL DISTRICT

Raw Sampling Results

July 2020 - June 2021

Date	Flow (mgd)	mg/L											
		Arsenic	Cadmium	Chromium	Copper	Cyanide	Lead	Mercury	Nickel	Oil & Grease	Selenium	Silver	Zinc
July 7, 2020	4.27	0.001	0.0005	0.004	0.076	0.0025	0.003	0.00025	0.008	20	0.001	0.001	0.180
August 5, 2020	3.54	0.001	0.001	0.006	0.10	0.005	0.005	0.00025	0.006	26	0.001	0.001	0.210
September 2, 2020	3.45	0.001	0.0005	0.006	0.110	0.005	0.003	0.00025	0.005	33	0.001	0.001	0.190
October 7, 2020	3.24	0.001	0.0005	0.006	0.10	0.005	0.003	0.00025	0.006	16	0.001	0.001	0.16
November 4, 2020	3.65	0.001	0.0005	0.006	0.087	0.0025	0.002	0.0076	0.004	25	0.001	0.001	0.14
December 2, 2020	5.29	0.001	0.0005	0.003	0.060	0.005	0.001	0.00025	0.003	9.4	0.001	0.001	0.082
January 6, 2021	5.83	0.001	0.0005	0.002	0.063	0.0025	0.001	0.00025	0.003	13	0.001	0.001	0.093
February 3, 2021	4.63	0.001	0.0005	0.006	0.087	0.005	0.002	0.00025	0.004	37	0.001	0.001	0.11
March 3, 2021	5.84	0.001	0.0005	0.006	0.073	0.0025	0.002	0.00025	0.004	14	0.001	0.001	0.110
April 7, 2021	5.26	0.001	0.0005	0.003	0.074	0.005	0.002	0.00025	0.004	13	0.001	0.001	0.098
May 5, 2021	5.18	0.001	0.0005	0.0026	0.069	0.005	0.0018	0.00025	0.0028	17	0.001	0.001	0.12
June 2, 2021	5.24	0.001	0.0005	0.0035	0.082	0.005	0.002	0.00025	0.0044	19	0.001	0.001	0.140
Minimum	3.24	0.001	0.0005	0.002	0.060	0.0025	0.001	0.00025	0.0028	9.4	0.001	0.001	0.082
Maximum	5.84	0.001	0.001	0.006	0.110	0.005	0.005	0.00760	0.008	37	0.001	0.001	0.210
Average	4.62	0.001	0.001	0.005	0.082	0.004	0.0023	0.00086	0.005	20	0.001	0.001	0.136

Note: If a result was not detected, a number in bold is shown in the table equivalent to one-half of the test's detection limit.
 ND: No Data

CHARLES RIVER POLLUTION CONTROL DISTRICT

Primary Effluent Sampling Results

July 2020 - June 2021

Date	Arsenic	Cadmium	Chromium	Copper	Cyanide	Lead	Mercury	Nickel	Oil & Grease	Selenium	Silver	Zinc
	mg/L											
July 7, 2020				0.041								
August 5, 2020	0.001	0.0005	0.004	0.035	0.005	0.002	0.00025	0.005	19	0.001	0.001	0.062
September 2, 2020				0.030								
October 7, 2020				0.059								
November 4, 2020	0.001	0.0005	0.004	0.041	0.003	0.001	0.00025	0.004	9.6	0.001	0.001	0.056
December 2, 2020				0.045								
January 6, 2021				0.037								
February 3, 2021	0.002	0.001	0.004	0.043	0.0025	0.0005	0.00025	0.003	8.4	0.001	0.001	0.049
March 3, 2021				0.061								
April 7, 2021				0.055								
May 5, 2021	0.001	0.0005	0.0074	0.080	0.005	0.0019	0.00025	0.0059	11	0.001	0.001	0.10
June 2, 2021				0.054								
Minimum	0.001	0.0005	0.004	0.03	0.0025	0.001	0.00025	0.003	8.4	0.001	0.001	0.049
Maximum	0.002	0.0005	0.007	0.080	0.005	0.002	0.00025	0.0059	19	0.001	0.001	0.100
Average	0.001	0.001	0.005	0.048	0.004	0.001	0.00025	0.004	12.0	0.001	0.001	0.067

Note: If a result was not detected, a number in bold is shown in the table equivalent to one-half of the test's detection limit.

ND: No Data

CHARLES RIVER POLLUTION CONTROL DISTRICT

Secondary Effluent Sampling Results

July 2020 - June 2021

Date	Arsenic	Cadmium	Chromium	Copper	Cyanide	Lead	Mercury	Nickel	Oil & Grease	Selenium	Silver	Zinc
	mg/L											
July 7, 2020				ND								
August 5, 2020	0.001	0.0005	0.001	0.010	0.005	0.001	0.00025	0.006	0.25	0.001	0.001	0.026
September 2, 2020				0.007								
October 7, 2020				0.005								
November 4, 2020	0.001	0.0005	0.001	0.006	0.003	0.0005	0.00025	0.005	0.9	0.001	0.001	0.017
December 2, 2020				0.006								
January 6, 2021				0.007								
February 3, 2021	0.001	0.0005	0.001	0.010	0.005	0.0005	0.00025	0.003	0.5	0.001	0.001	0.025
March 3, 2021				0.009								
April 7, 2021				0.009								
May 5, 2021	0.001	0.0005	0.001	0.006	0.005	0.0005	0.00025	0.0052	0.25	0.001	0.001	0.022
June 2, 2021				0.006								
Minimum	0.001	0.0005	0.001	0.005	0.0025	0.001	0.00025	0.003	0.25	0.001	0.001	0.017
Maximum	0.001	0.0005	0.001	0.010	0.005	0.001	0.00025	0.006	0.9	0.001	0.001	0.026
Average	0.001	0.001	0.001	0.007	0.004	0.001	0.00025	0.005	0.5	0.001	0.001	0.023

Note: If a result was not detected, a number in bold is shown in the table equivalent to one-half of the test's detection limit.
 ND: No Data

CHARLES RIVER POLLUTION CONTROL DISTRICT

Final Effluent Sampling Results

July 2020 - June 2021

Date	Arsenic	Cadmium	Chromium	Copper	Cyanide	Lead	Mercury	Nickel	Oil & Grease	Selenium	Silver	Zinc
	mg/L											
July 7, 2020				0.0060								
August 5, 2020	0.001	0.0005	0.001	0.010	0.005	0.001	0.00025	0.006	0.25	0.001	0.001	0.025
September 2, 2020				0.008								
October 7, 2020				0.0050								
November 4, 2020	0.001	0.0005	0.001	0.005	0.003	0.0005	0.00025	0.005	1.9	0.001	0.001	0.015
December 2, 2020				0.0050								
January 6, 2021				0.0060								
February 3, 2021	0.001	0.0005	0.001	0.010	0.005	0.0005	0.00025	0.003	0.25	0.001	0.001	0.025
March 3, 2021				0.0070								
April 7, 2021				0.0070								
May 5, 2021	0.001	0.0005	0.001	0.0051	0.005	0.0005	0.00025	0.0056	0.25	0.001	0.001	0.022
June 2, 2021				0.0058								
Minimum	0.001	0.0005	0.001	0.0050	0.003	0.001	0.00025	0.003	0.25	0.001	0.001	0.015
Maximum	0.001	0.0005	0.001	0.0100	0.005	0.001	0.00025	0.006	1.90	0.001	0.001	0.025
Average	0.001	0.0005	0.001	0.0067	0.004	0.001	0.00025	0.005	0.66	0.001	0.001	0.022

Note: If a result was not detected, a number in bold is shown in the table equivalent to one-half of the test's detection limit.

ND: No Data

CHARLES RIVER POLLUTION CONTROL DISTRICT

Septage Sampling Results

July 2020 - June 2021

Date	Volume (mgd)	mg/L											
		Arsenic	Cadmium	Chromium	Copper	Cyanide	Lead	Mercury	Nickel	Oil & Grease	Selenium	Silver	Zinc
July 7, 2020	0.0461				3.89								
August 5, 2020	0.0319	0.057	0.017	0.086	11.4	0.005	0.36	0.0078	0.14	310	0.026	0.030	15.2
September 2, 2020	0.0477				2.14								
October 7, 2020	0.0578				9.19								
November 4, 2020	0.0473	0.1	0.106	0.565	50.90	0.05	1.79	0.00025	0.739	1100	0.1	0.043	107
December 2, 2020	0.0702				3.77								
January 6, 2021	0.0211				1.60								
February 3, 2021	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
March 3, 2021	0.0416				8.40								
April 7, 2021	0.0424				5.2								
May 5, 2021	0.0653	0.0035	0.0024	0.021	1.0	0.005	0.069	0.0018	0.02	60	0.0031	0.0038	1.3
June 2, 2021	0.0484				4.0								
Minimum	0.0211	0.004	0.0024	0.021	1.00	0.005	0.069	0.00025	0.020	60	0.003	0.004	1.3
Maximum	0.0702	0.1	0.106	0.565	50.90	0.050	1.790	0.0078	0.74	1100	0.100	0.043	107.0
Average	0.0473	0.054	0.042	0.224	9.23	0.020	0.740	0.0033	0.300	490	0.043	0.026	41.2

Note: If a result was not detected, a number in **bold** is shown in the table equivalent to one-half of the test's detection limit.
 ND: no data due to zero septage discharge on sampling day

CHARLES RIVER POLLUTION CONTROL DISTRICT

Sludge Sampling Results

July 2020 - June 2021

Date	Arsenic	Cadmium	Chromium	Copper	Cyanide	Lead	Mercury	Nickel	Oil & Grease	Selenium	Silver	Zinc
	mg/L											
August 5, 2020	1.26	0.126	6.0	54	0.06	2.04	0.048	1.68	456	2.46	0.50	75.6
November 4, 2020	1.25	0.125	6.27	58.14	4.62	2.394	0.047	1.71	285	2.45	0.49	77.5
February 3, 2021	1.25	0.125	1.8	17	4.65	1.0	0.700	0.5	22940	2.50	0.50	20
May 5, 2021	1.20	0.120	3.61	21	4.83	1.0	0.068	1.46	109.2	2.45	0.49	27.6
Minimum	1.20	0.12	1.80	17.0	0.06	1.00	0.05	0.50	109	2.45	0.49	20.00
Maximum	1.26	0.13	6.27	58.1	4.83	2.39	0.70	1.71	22940	2.50	0.50	77.52
Average	1.24	0.12	4.42	37.5	3.54	1.61	0.22	1.34	5948	2.47	0.49	50.18

Note: If a result was not detected, a number in bold is shown in the table equivalent to one-half of the test's detection limit.

WATER QUALITY ANALYSIS SUMMARY

The only metal pollutant in the District's local limits that has NPDES permit limitations is copper. The copper limits in the permit are 0.013 mg/L for a monthly average and 0.023 mg/L for a daily maximum. The District did not exceed its monthly average or daily maximum limit during this reporting period.

The District was in compliance with the biomonitoring toxicity testing for this reporting period.

The final effluent versus the water quality standards showed that the final effluent was below the water quality standards for all parameters except for cadmium which had all four samples above the water quality standards but were all considered non-detect. Samples that were not detected were given a value of one-half of the test's detection limit, because of some of the higher detection limits the average final effluent appears to be higher than the water quality criteria. The District does not think these results with high detection limits are representative of the true final effluent average.

The water quality criteria for copper is based off the Gold Book numbers.

CHARLES RIVER POLLUTION CONTROL DISTRICT

Copper Concentrations in Final Effluent vs. MA NPDES Permit Limits

July 2020 - June 2021

Date	Average Concentration ug/L	NPDES Permit Monthly Average Limit ug/L	Maximum Concentration ug/L	NPDES Permit Daily Maximum Limit ug/L
Jul-19	0.006	13	0.006	23
Aug-19	0.010	13	0.010	23
Sep-19	0.008	13	0.008	23
Oct-19	0.005	13	0.005	23
Nov-19	0.005	13	0.005	23
Dec-19	0.005	13	0.005	23
Jan-20	0.006	13	0.006	23
Feb-20	0.010	13	0.010	23
Mar-20	0.007	13	0.007	23
Apr-20	0.007	13	0.007	23
May-20	0.0051	13	0.0051	23
Jun-20	0.0058	13	0.0058	23

CHARLES RIVER POLLUTION CONTROL DISTRICT

Summary of Bioassay Data

July 2020 - June 2021

Date	<i>Ceriodaphnia dubia</i>		<i>Pimephales promelas</i>	
	7 Day Chronic NOEC	48 Hour Acute LC ₅₀	7 Day Chronic NOEC	48 Hour Acute LC ₅₀
July 2020	100%	>100%	100%	>100%
October 2020	100%	>100%	100%	>100%
January 2021	100%	>100%	80%	>100%
April 2021	100%	>100%	100%	>100%

Note: Dilution water for *Ceriodaphnia dubia* was the receiving river collected upstream of discharge. Dilution water used for *Pimephales promelas* was either synthetic laboratory water prepared using either Millipore Milli-Q or equivalent deionized water and reagent grade chemicals, deionized water combined with mineral water, or artificial sea salts mixed with deionized water.

CHARLES RIVER POLLUTION CONTROL DISTRICT

Water Quality Criteria VS. CRPCD Final Effluent

July 2020 - June 2021

Parameter	Water Quality Criteria (ug/L)	Final Effluent (ug/L)
Arsenic	150	1.0
Cadmium	0.23	0.5
Chromium III	69.2	1.0
Copper *	8.34	6.7
Lead	2.3	1.0
Mercury	0.77	0.25
Nickel	48.5	5.0
Selenium	5	1.0
Silver	2.79	1.0
Zinc	109.2	22

The provided Gold Book numbers have been adjusted for hardness and were obtained from the EPA document titled National Recommended Water Quality Criteria: 2009 (Office of Science and Technology 43041)

Limits adjusted for a hardness of 92 mg/L as CaCO₃

Note: If a result was not detected, a number in bold is shown in the table equivalent to one-half of the test's detection limit.

*Copper limit for NPDES permit is an average monthly of 13ug/L and a max daily of 23 ug/L

INTERFERENCE AND PASS-THROUGH ANALYSIS

The raw and primary effluent sampling data for the metal pollutants during the reporting period indicated concentrations that may cause inhibition with the District's nitrification and activated sludge process.

Nitrification Process

The upper range of the raw influent copper concentration was in the lower range of the inhibition threshold level. Twelve (12) of the twelve (12) copper samples were above the lower inhibition threshold level of 0.05 mg/L. Also, the upper range of the raw influent zinc concentration was in the lower range of the inhibition threshold level. Twelve (12) of the twelve (12) zinc samples were above the lower inhibition threshold level of 0.08 mg/L. Although the samples were within the inhibition ranges for copper and zinc they did not seem to cause interference or pass through at the District.

The upper range of the primary effluent copper concentration was in the lower range of the inhibition threshold level. Five (5) of the twelve (12) copper samples were above the lower inhibition threshold level of 0.05 mg/L. Although the samples were within the inhibition ranges for copper it did not seem to cause interference or pass through at the District.

Activated Sludge Process

The raw and primary effluent sampling showed no concentrations above the reported range of activated sludge inhibition levels.

The final effluent sampling data does not indicate pass-through in the activated sludge process. A significant quantity of the metal pollutants was removed in the treatment facility through its primary and activated sludge processes.

CHARLES RIVER POLLUTION CONTROL DISTRICT

Inhibition Threshold Concentrations

July 2020 - June 2021

Pollutant	Reported Range of Raw Influent at CRPCD mg/L	Reported Range of Primary Effluent at CRPCD mg/L	Reported Range of Nitrification Inhibition Threshold Levels mg/L *	Reported Range of Activated Sludge Inhibition Levels mg/L *
Arsenic	0.001	0.001 - 0.002	1.5	0.1
Cadmium	0.0005 - 0.001	0.0005	5.2	1 to 10
Chromium	0.002 - 0.006	0.004 - 0.007	0.25 to 1.9	1 to 100
Copper	0.06 - 0.110	0.03 - 0.080	0.05 to 0.48	1
Cyanide	0.0025 - .005	0.0025 - .005	0.34 to 0.5	0.1 to 5
Lead	0.001 - 0.005	0.001 - 0.002	0.5	1.0 to 5.0
Mercury	0.00025 - .0076	0.0025	----	0.1 to 1
Nickel	0.0028 - 0.008	0.003 - 0.0059	0.25 to 0.5	1.0 to 2.5
Selenium	0.001	0.001	----	----
Silver	0.001	0.001	----	----
Zinc	0.082 - 0.210	0.049 - 0.100	0.08 to 0.5	0.3 to 5

* Inhibition thresholds are from Appendix G - Literature Inhibition Values from EPA Local Limits Development Guidance Appendices (EPA 833-R-04-002B, July 2004)

Note: If a result was not detected, a number in bold is equivalent to one-half of the test's detection limit.

INVESTIGATIONS INTO INTERFERENCE AND PASS-THROUGH

No investigations were necessary during this reporting period due to no knowledge of any interference or pass-through events.

MONITORING, SEWER INSPECTIONS AND EVALUATIONS TO DETECT INTERFERENCE AND PASS-THROUGH

The District tested the raw influent, septage, primary effluent, secondary effluent, and final effluent on a quarterly basis for the required IPP parameters to evaluate whether any interference or pass-through was occurring.

ACTIONS TAKEN TO REDUCE THE INCIDENCE OF SIGNIFICANT VIOLATIONS BY SIU's

The District did not have any significant SIU non-compliances for this reporting period.

CHARLES RIVER POLLUTION CONTROL DISTRICT

SUMMARY OF LOCAL LIMITS

Effective as of March 12, 2020

Parameter	Daily Limit mg/L	Parameter	Daily Limit lb/d ¹	Max Monthly lb/d ¹
Cyanide	0.23	Biological Oxygen Demand (BOD) ²	3,148	761
Arsenic	1.02	Total Suspended Solids (TSS) ²	5,473	1,287
Cadmium	0.06	Total Ammonia - Nitrogen (NH ₃) ²	564	409
Chromium	3.48	Total Phosphorus (TP) ²	278	229
Copper	1.05			
Lead	0.08			
Mercury	0.03			
Nickel	0.79			
Selenium	0.14			
Silver	0.35			
Zinc	1.32			
Oil & Grease	150			
pH	5 - 12 s.u.			

¹ lb/d = pollutant concentration (mg/L) x Flow (MGD) x 8.34 (conversion factor)

² Total available loading for all Industrial Users. The sum of all allocations not exceed the total permitted loading for all Industrial Users. Allocations are given to each Industry on an individual basis.